REMARKS

With the entry of the foregoing amendments, claims 1-7, 9-19, 21-30 and 32-34 are pending in the application. Favorable consideration is requested.

Claims 1, 13 and 24 have been amended to further clarify the invention as supported by the specification, for example, on page 4, lines 11-20, and page 11, line7 to page 13, line 10. Claims 8, 20 and 31 have been cancelled. No new matter has been added by the claim amendments.

Claims 1-11 and 11-34 stand rejected under 35 U.S.C. 103(a) as allegedly being obvious over Koning (U.S. Patent 6,548,591) in view of Martens (U.S. Patent 5,618,865), Kasowski (U.S. Patent 6,025,419) or Cosstick (U.S. Patent 6,166,114). In response, applicant respectfully submits that the claimed invention is not obvious.

The objects of the present invention are to improve both the flow and the mechanical properties of commercially viable halogen free flame retardant polyamide compounds. The specifically claimed compounds provide a polyamide composition that has excellent outer appearance and good mechanical properties compared to prior art compounds. The superior and unexpected results of the claimed invention result from the use of a certain polyamide polymer, a certain halogen-free phosphorous containing flame retardant, a certain polyamide oligomer, and wherein the polyamide oligomer has a lower melting point than the polyamide polymer.

The cited references either individually or in any reasonable combination do not disclose or suggest the claimed invention, nor do they address the problems that are targeted by the claimed invention. Koning simply discloses high molecular weight polyamides and low molecular weight polyamides with the addition of flame retardants as shown in column 3, line 51. Koning also refers to Japanese reference JP-A-5214246. According to Koning, and in

agreement with the description of the subject application on page 1, lines 10-21, the Japanese reference describes compositions comprising 100 parts by weight of a polyamide polymer and 0.001 - 10 parts by weight of a specific polyamide oligomer. Koning mentions as one of the drawbacks of the Japanese reference the insufficient retention of mechanical properties after addition of a polyamide oligomer, apart from the difficult preparation thereof, and the lack of commercial availability. Koning therefore teaches that the problem of mechanical property retention of the Japanese reference can be solved by using a specific selection of polyamide oligomers, i.e., polyamide oligomers having a melting temperature **higher than** the temperature of the polyamide polymer (see claim 1 of Koning). Koning does not mention anything about the specific problems relating to the triazine flame retardants disclosed in the Japanese reference. Instead, flame retardants are generally mentioned in Koning merely as examples of **optional** components of the composition. Koning does not mention any details about the types of flame retardants, the amounts that can be used, or their effects on any of the components in any combination. Thus, there is no teaching, suggestion or motivation in Koning to modify its disclosures with any of the secondary references to arrive at the claimed invention.

Indeed, Koning teaches away from the claimed invention or at least in another direction than the claimed invention because Koning teaches one skilled in the art that the problem with mechanical property retention is solved by using a specific selection of polyamide oligomers having melting temperatures higher than the temperatures of the polyamide polymers. As further evidence that Koning teaches those skilled in the art to go in a different direction, the polyamide oligomers of the claimed invention have melting points that are even lower than that of a polyamide polymer (see, for example, page 11, lines 11-15) -- which is contrary to the teachings of Koning.

Furthermore, the use of a high amount of flame retardant is normal to achieve a required flame retardancy level. Achieving both good flow and good mechanical properties is more difficult, even when using a polyamide oligomer as disclosed in the Japanese reference mentioned in Koning and as mentioned in the subject application. The subject invention takes a different approach and yields an invention that results in polyamide compounds having a good outer appearance and having mechanical properties that are superior to the mechanical properties of a corresponding compound without a polyamide oligomer. Moreover, in the claimed invention and unlike anything disclosed or suggested in the prior art, good outer appearance and improved mechanical properties are not only achieved with a content of flame retardant above 25 parts by weight, and even above 30 parts by weight, relative to the 100 parts by weight of the polyamide polymer, but even with a polyamide oligomer content above 10 parts by weight, and more particularly above 12 parts by weight, relative to the 100 parts by weight of the polyamide polymer. See, for example, independent claim 13 and page 2, lines 1-11, of the specification.

The improved results of the claimed invention are shown in Tables I and II of the present application. This evidence of unexpected and superior results further demonstrates the non-obviousness of the claimed invention. And, as noted above, these superior results are achieved with the claimed components that include a polyamide oligomer having a melting point lower than that of a polyamide polymer (see, for example, page 11, lines 11-15 of the application) -- in contrast to the teachings of Koning -- the primary reference. The secondary references do not teach otherwise, and modifying Koning to eliminate Koning's temperature requirement would defeat the purpose of the primary reference -- which is not permitted in an obviousness analysis.

In summary, there is no reason why a person skilled in the art would have a reasonable expectation of success of choosing a flame retardant composition from any of the secondary

references and combining such a composition with a polyamide oligomer as required by Koning and arriving at the claimed invention. Nor would a person skilled in the art expect there to be improved results when modifying Koning in this improper way. Thus, the claimed invention is not obvious in view of the primary reference of Koning in any reasonable combination with the secondary references.

In view of the foregoing amendments and remarks, applicant submits that the claimed invention is novel and non-obvious. A favorable notice of allowance is requested.

If the Examiner has any questions concerning this case, please feel free to contact the undersigned at 703-816-4009.

Respectfully submitted,

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